

Further Identification – *Coxiella burnetii*

Purpose

To provide guidelines on the transport of suspected *Coxiella burnetii* samples to the OPH Central Laboratory for testing

Policy

The OPH Central Laboratory does not culture for *Coxiella burnetii* from blood or tissue. All blood and tissue samples for culture will be forwarded to CDC for testing.

The OPH Central Laboratory will accept certain clinical specimens suspected of containing *C. burnetii*, based on the clinical signs and symptoms of the patient or a positive result (i.e. organisms seen) with the Giemsa or Gimenez stain.

Specimen Collection, Handling, Storage

1. Q Fever is a zoonotic disease caused by *Coxiella burnetii*. Only about one-half of all people infected with *C. burnetii* show signs of clinical illness.
2. Acceptable specimens:
 - 0.5 cc serum (IFA)
 - EDTA-anticoagulated blood (PCR)
 - Affected tissue (PCR)
 - Impression smears of affected tissue (3 sets of slides minimum)
3. Paired serum specimens are necessary for serologic confirmation. An acute-phase specimen should be collected as soon as possible after onset of disease. A convalescent-phase specimen should be collected >14 days after the acute specimen.
4. EDTA-anticoagulated blood should be taken in the acute-phase of illness and prior to antibiotic therapy.
5. Affected tissue clinical specimens can be submitted as aspirates or tissue biopsies. Blood clots, tissues and cell cultures, or culture supernatants may also be submitted.
6. Serum, blood, and tissue samples should be shipped refrigerated.
7. A CDC Form 50 providing patient history must be completed for each specimen. The OPH Central Laboratory will forward the paperwork and specimens to CDC.

8. Contact the State Epidemiologist at 504-568-5005 and the OPH Central Laboratory Virology/Immunology Unit at 504-568-4039 prior to shipment.

Procedure

Step	Action
1	For all specimen types: Fill out Lab Form 96 with subject's name, sex, age, home address, source of specimen (human or animal), and submitter information.
2	For serum specimens (IFA): Fill out Lab Form 96 with date of onset and the serum collection date (acute and/or convalescent). Write Rule out <i>Coxiella burnetii</i> for the clinical diagnosis. Under Rickettsia Panel on the Lab Form 96, check the Q Fever Phase 1 IgG and IgM boxes and the Q Fever Phase 2 IgG and IgM boxes.
3	For EDTA-anticoagulated blood and tissue samples (PCR): Under Misc. Assays on the Lab Form 96 check the Other box and write Rule out <i>Coxiella burnetii</i> and the type of specimen.
4	Attach the corresponding Lab Form 96 barcode label to sample container. Only submit one Lab Form 96 per specimen.
5	For each sample, completely fill out a CDC Form 50 (see Appendix 6 for sample form). You may request a faxed copy of the CDC Form 50 from the OPH Central Laboratory.
6	Ship samples to the OPH Central Laboratory as diagnostic specimens using the provided Diagnostic Specimen mailers. Mailers can be obtained by contacting Bonnie Fiorito (504-568-5443) or Wayne Dupree (504-568-3453) and completing and faxing the Request for Specimen Shipping Supplies form (see Appendix 5). Include Lab Form 96 and the CDC Form 50. Call the OPH Central Laboratory with approximate delivery date/time.

Further Identification – Poxvirus (Varicella-Zoster, Vaccinia, Orthopox Virus)

Purpose

To provide guidelines on the transport of suspected Varicella-Zoster, Vaccinia, and Orthopox virus samples to the OPH Central Laboratory for testing

Policy

The OPH Central Laboratory will accept any specimen from a patient with vesicular pox infection. This specimen will be tested to rule out varicella-zoster (chickenpox), vaccinia, and other orthopox viruses such as monkeypox. Any negative specimen or presumptive positive specimen will be forwarded to the CDC.

The OPH Central Laboratory does not isolate or identify specimens for Variola virus (smallpox). This virus is a biosafety level 4 (BSL-4) agent, and all work with this agent must be done in a National (Level D) LRN laboratory. All specimens suspected of containing Variola virus will be transported to the CDC.

Specimen Collection, Handling, Storage

1. These samples may be highly infective. Extreme caution should be taken in collecting, preparing for shipment, and transporting any material suspected of being contaminated with one of these viral agents.
2. Specimens should be collected by someone who has recently been vaccinated, or is vaccinated that day, and who wears the following protective equipment: disposable surgical scrub suit, surgical cap, water proof gown with full sleeve coverage, double surgical gloves, N-95 masks or higher, protective eyewear or face shield and shoe covers.
3. Acceptable specimens:
 - Uncoagulated blood
 - Serum
 - Drainage from skin lesions/scrapings
 - Touch prep slide from skin lesions
 - Post-mortem specimens (skin, spleen, lymph nodes, tonsils, liver, lung, kidney, and heart)
4. Representative fragments of tissues should be collected using sterile technique and placed in a sterile 1.5-2.0 ml screw capped plastic vial with an O-ring. Do not add transport medium.
5. Tissues should be divided into two parts. The first half should be placed in 10% formalin and kept at room temperature. Do not freeze formalin-fixed specimens.

6. Refrigerate specimen if shipment occurs within 24 hours; otherwise freeze the specimen.
7. A full report of the gross pathology findings should accompany necropsy specimens submitted for testing.
8. To obtain vesicular or pustular fluid, it is often necessary to open lesions with the blunt edge of a scalpel. The fluid can then be harvested on a Dacron swab. Fallen scabs or scabs picked off with forceps should be deposited in a plastic externally threaded screw capped tube with no transport medium and sealed with adhesive tape. This tube should then be packaged and shipped as an infectious specimen, not as a diagnostic specimen.
9. Store and ship all non-tissue samples using ice packs.
10. Ship swabs dry.
11. Fixed specimens should be sent at room temperature. Do not freeze fixed tissue. Frozen tissue should be shipped at or below -20°C with dry ice.
12. A CDC Form 50 providing patient history must be completed for each specimen. The OPH Central Laboratory will forward the paperwork and specimens to CDC.
13. **The State Epidemiologist MUST BE contacted prior to shipment of any potential Smallpox specimens. The specimen will only be shipped at the request of the State Epidemiologist. Prior approval for testing of varicella, vaccinia, and monkeypox by the LA OPH State Epidemiologist is also necessary.** Please contact the State Epidemiologist at 504-568-5005 and the OPH Central Laboratory Virology/Immunology Unit at 504-568-4039 prior to shipment.

Procedure

Step	Action
1	For all specimen types: Fill out Lab Form 96 with subject's name, sex, age, home address, source of specimen (human or animal), and submitter information.
2	For all specimen types: Under Misc. Assays on the Lab Form 96 check the Other box and write Rule out Poxvirus and the type of specimen.
3	All primary specimen containers must be labeled with the patient's information and type of specimen.
4	Attach the corresponding Lab Form 96 barcode label to sample container. Only submit one Lab Form 96 per specimen.

5	For each sample, completely fill out a CDC Form 50 (see Appendix 6 for sample form). You may request a faxed copy of the CDC Form 50 from the OPH Central Laboratory.
6	Ship samples as infectious specimens using the provided Infectious Substance mailers. Mailers can be obtained by contacting Bonnie Fiorito (504-568-5443) or Wayne Dupree (504-568-3453) and completing and faxing the Request for Specimen Shipping Supplies form (see Appendix 5). Include Lab Form 96 in the Infectious Substance Mailer. Ship to the OPH Central Laboratory, New Orleans.

Further Identification – SARS Coronavirus

Purpose

To provide guidelines on the transport of suspected SARS Coronavirus samples to the OPH Central Laboratory for testing

Policy

Please contact the OPH Central Laboratory to obtain specific instructions prior to collecting any samples. Submitting a follow up specimen is recommended if a patient is suspected of having SARS. Any presumptive positive specimen will be forwarded to CDC.

Specimen Collection, Handling, Storage

1. These samples may be highly infective. Extreme caution should be taken in collecting, preparing for shipment, and transporting any material suspected of being contaminated with SARS.
2. SARS can spread person to person by droplets or aerosol expelled from the oropharynx of infected person. Contaminated clothing or bed linens can also spread the virus.
3. Acceptable specimens:
 - Whole Uncoagulated blood
 - Blood components (WBCs)
 - Plasma
 - Serum
 - Nasopharyngeal wash or aspirate
 - Bronchoalveolar lavage
 - Tracheal washing
 - Pleural tap
 - Tissues from all major organs
 - Tissues of lungs and upper airways
 - Urine
 - Stool
4. Tissues from all major organs must be formalin fixed or paraffin embedded. Store and ship fixed tissue specimens at room temperature. Tissues of lungs and upper airways must be frozen. Frozen tissue should be shipped at or below -20°C with dry ice.
5. For urine specimens: pellet cells from 50 ml of first void (morning specimen); then resuspend pellet in 2 to 3 ml of viral transport medium.
6. All non-tissue samples should be shipped using cold packs.

7. A consent form is recommended when submitting specimens for SARS-CoV reverse transcription polymerase chain reaction (RT-PCR) or enzyme immunoassay (EIA) testing.
8. **Prior approval for testing of SARS by the LA OPH State Epidemiologist is necessary.** Please contact the State Epidemiologist at 504-568-5005 and the OPH Central Laboratory Virology/Immunology Unit at 504-568-4039 prior to shipment.

Procedure

Step	Action
1	For all specimen types: Fill out Lab Form 96 with subject's name, sex, age, home address, source of specimen (human or animal), and submitter information.
2	For all specimen types: Under Misc. Assays on the Lab Form 96 check the Other box and write Rule out SARS and the type of specimen.
3	All primary specimen containers must be labeled with the patient's information and type of specimen.
4	Attach the corresponding Lab Form 96 barcode label to sample container. Only submit one Lab Form 96 per specimen.
5	For each sample, completely fill out CDC Consent Forms for SARS-CoV RT-PCR (see Appendix 7 for sample form) and EIA (see Appendix 8 for sample form) testing. These forms may be found on the CDC website at http://www.cdc.gov/ncidod/sars/lab/rtpcr/consent.htm and http://www.cdc.gov/ncidod/sars/lab/eia/consent.htm , respectively.
6	Ship samples to the OPH Central Laboratory as diagnostic specimens using the provided Diagnostic Specimen mailers. Mailers can be obtained by contacting Bonnie Fiorito (504-568-5443) or Wayne Dupree (504-568-3453) and completing and faxing the Request for Specimen Shipping Supplies form (see Appendix 5). Include Lab Form 96 and CDC Consent Forms. Call the OPH Central Laboratory with approximate delivery date/time.

Further Identification – Viral Hemorrhagic Fevers (VHFs)

Purpose

To provide guidelines on the transport of suspected Viral Hemorrhagic Fever (VHF) samples to the OPH Central Laboratory for routing to CDC

Policy

The OPH Central Laboratory is not equipped to process any specimen for hemorrhagic fever. These viruses are biosafety level 4 (BSL-4) agents, and all work must be done in a National (Level D) LRN laboratory. All specimens will be transported to the CDC.

Specimen Collection, Handling, Storage

1. Viral Hemorrhagic Fevers are comprised of viruses of four distinct families:
 - Arenaviridae
 - Argentine hemorrhagic fever
 - Bolivian hemorrhagic fever
 - Sabia-associated hemorrhagic fever
 - Venezuelan hemorrhagic fever
 - Lassa Fever
 - Bunyaviridae
 - Crimean-Congo
 - Hantavirus pulmonary syndrome (HPS)
 - Hemorrhagic fever with renal syndrome (HFRS)
 - Rift Valley Fever
 - Filoviridae
 - Ebola hemorrhagic fever
 - Marburg hemorrhagic fever
 - Flaviviridae
 - Kyasanur Forest disease
 - Omsk hemorrhagic fever
 - Yellow Fever
2. Within a few days of exposure, patients infected with VHF will experience high fever, headache, muscle aches, stomach pain, fatigue, diarrhea, sore throat, rash, red and itchy eyes, vomiting blood, and bloody diarrhea. Within one week of exposure, patients infected with VHF will experience chest pain, blindness, bleeding, shock, and death.
3. These samples may be highly infective. Extreme caution should be taken in collecting, preparing for shipment, and transporting any material suspected of being contaminated with one of these viral agents.

4. Acceptable specimens:
 - Whole blood
 - Serum
 - Tissues
 - Post-mortem specimens (liver, skin, spleen, lung, heart, and kidney biopsies)
5. Do not centrifuge suspected VHF specimens because this increases the risk to the laboratory worker.
6. Place blood, serum and tissue specimens in plastic tubes for shipping and storage. Be sure that the tubes are sealed and properly labeled. Ship frozen on dry ice.
7. Biopsy specimens should be fixed in formalin and stored at room temperature.
8. A CDC Form 50 providing patient history must be completed for each specimen. The OPH Central Laboratory will forward the paperwork and specimens to CDC.
9. **The State Epidemiologist MUST BE contacted prior to shipment of any potential VHF specimens. The specimen will only be shipped at the request of the State Epidemiologist.** Please contact the State Epidemiologist at 504-568-5005 and the OPH Central Laboratory Virology/Immunology Unit at 504-568-4039 prior to shipment.

Procedure

Step	Action
1	For all specimen types: Fill out Lab Form 96 with subject's name, sex, age, home address, source of specimen (human or animal), and submitter information.
2	For all specimen types: Under Misc. Assays on the Lab Form 96 check the Other box and write Rule out VHF and the type of specimen.
3	All primary specimen containers must be labeled with the patient's information and type of specimen.
4	Attach the corresponding Lab Form 96 barcode label to sample container. Only submit one Lab Form 96 per specimen.
5	For each sample, completely fill out a CDC Form 50 (see Appendix 6 for sample form). You may request a faxed copy of the CDC Form 50 from the OPH Central Laboratory.
6	Ship samples to the OPH Central Laboratory with the appropriate paperwork. (Call the OPH Central Laboratory with approximate delivery date/time) Ship samples as infectious specimens using the provided Infectious Substance mailers. Mailers can be obtained by contacting Bonnie Fiorito (504-568-5443) or Wayne Dupree (504-568-3453) and

	completing and faxing the Request for Specimen Shipping Supplies form (see Appendix 5). Include Lab Form 96 in the Infectious Substance Mailer. Ship to the OPH Central Laboratory, New Orleans. Do not ship plates through the mail. Plates need to be hand delivered by a courier.
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